

REMARKS

Claims 1-25 and 27-38 are pending in this application. For purposes of expedition, claim 26 has been canceled without prejudice or disclaimer. Claims 1-4, 9-14, 17-18, 21-22, 25, 27, 29, 32 and 34-35 have been amended in several particulars for purposes of clarity and brevity that are unrelated to patentability and prior art rejections in accordance with current Office policy, to further and alternatively define Applicants' disclosed invention and to assist the Examiner to expedite compact prosecution of the instant application.

Claims 1-38 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kim et al., U.S. Patent No. 6,564,345 and in view of Lin, U.S. Patent No. 7,000,152 for reasons stated on pages 2-11 of the Office Action (Paper No. 20061102). Broadly, the Examiner asserts that Kim '345, as a primary reference, discloses all aspects of Applicants' base claims 1, 3, 5, 9, 11, 13, 17, 21 and 25, except for an optical disc being a write-once optical disc that has either a single recording layer or double recording layer. The Examiner then cites Lin '152, as a secondary reference, for allegedly disclosing these features in order to arrive at Applicants' claims 1-38. However, the Examiner's assertions are factually incorrect. Applicants respectfully submit that features of Applicants' claims 1-38 are **not** disclosed or suggested by Kim '345 or Lin '152, whether taken individually or in combination with any other references of record. Therefore, Applicants respectfully traverse the rejection and request the Examiner to reconsider and withdraw this rejection for the following reasons.

As a primary reference, Kim '345 discloses nothing more than an enhancement to the conventional "linear replacement" method and the "slipping replacement" method, used to manage defects in conventional rewritable optical discs, such as DVD-RAM, in which defects which arise on their recording surface, are managed to avoid writing data to defective sectors in a user data area when new data is recorded to these rewritable optical discs.

Specifically, in a rewritable DVD-RAM, as shown in FIG. 1, a primary defect list (PDL) and a secondary defect list (SDL), which contain defective sectors in a user data area, are stored in defective management areas (DMA) located in either a lead-in area or a lead-out area. Both the "linear replacement" method (see, column 3, lines 35-50 of Kim '345) and the "slipping replacement" (see, column 2, lines 60-67; column 3, lines 7-19 of Kim '345) can be used to manage defective sectors on the rewritable DVD-RAM, depending on whether data is AV data or non-AV data.

In contrast to Kim '345, Applicants' disclosed invention provides a new disc defect management technique for a write-once optical disc in which defects are managed in consideration of the compatibility with a rewritable disc drive. For example, base claim 1 (also, see base claims 5, 9, 13, 17 and 25) defines a method of managing disc defects occurring on a write once disc that is a single recording layer disc in which a lead-in area, a data area, and a lead-out area are sequentially formed and a first spare area and a second spare area are formed at both ends of the data area, respectively, comprising:

- allocating a first temporary defect management area (TDMA) to at least one of the lead-in area and the lead-out area;
- allocating a second TDMA between the first spare area and a user data area or between the user data area and the second spare area;
- allocating a defect management area (DMA) to at least one of the lead-in area and the lead-out area; and
- performing disc defect management using the first and second TDMA's and the DMA, including recording temporary management information, which is most recently updated in the first or second TDMA, in the DMA.

Alternatively, base claim 3 (also, see base claims 11 and 21) defines a method of managing disc defects occurring on a write once disc that is a dual layer optical disc including a first recording layer in which a lead-in area, a data area, and an outer area are formed along a recording path and a first spare area and a second spare area are respectively formed at both ends of the data area, respectively; and a second recording layer in which an outer area, a data area, and a lead-out area are formed along a recording path and a third spare area and a fourth spare area are respectively formed at the both ends of the data area, comprising:

- allocating a first temporary defect management area (TDMA) to at least one of the lead-in area, the lead-out area, and the outer area;
- allocating a second TDMA between the first spare area and a user data area in the data area, on the first recording layer of the write once disc, and/or between the fourth spare area and a user data area in the data area, on the second recording layer of the write once disc;
- allocating a defect management area (DMA) to at least one of the lead-in area, the lead-out area, and the outer area; and
- performing disc defect management using the first and second TDMA's, and the DMA, including recording temporary management information, which is most recently updated in the first or second TDMA, in the DMA.

As described on paragraph [0041] of Applicants' disclosure, the inclusion of the second TDMA on the write once disc solves a problem caused by a power failure occurring in a write stand-by mode and increases the robustness of information.

In contrast to Applicants' base claims 1, 3, 5, 9, 13, 17, 21 and 25, Kim '345 does not disclose the relationship between a first TDMA, a second TDMA and a defect management area (DMA), on a recording medium. Moreover, any attempt to broadly interpret the use of a primary defect list (PDL), a secondary defect list (SDL) and a temporary PDL (T-DPL), as shown in FIG. 1 and FIG. 10 of Kim '345, is improper. This is because neither the PDL nor the T-PDL, as shown in FIG. 10 of Kim '345 corresponds to Applicants' claimed "first temporary defect management area (TDMA)" and "second TDMA" strategically located, in addition to a defect management area (DMA), on a write-once optical disc, as expressly defined in Applicants' base claims 1, 3, 5, 9, 11, 13, 17, 21 and 25.

As a secondary reference, Lin '152 does **not** remedy the noted deficiencies of Kim '345 in order to arrive at Applicants' base claims 1, 3, 5, 9, 11, 13, 17, 21 and 25. This is because Lin '152 also discloses similar defect management techniques for only a recordable or re-writable optical disc 102, as shown in FIG. 2, and **not** a write once optical disc, as allegedly by the Examiner.

Nevertheless, the Examiner cites column 4, lines 24-26 of Lin '152 for allegedly disclosing a method for a write-once recording disc. However, the Examiner's citation is misplaced. Rather, the cited column 4, lines 24-26 of Lin '152 refers to a recordable, re-writable

disk medium 102. However, the disk drive device 100, as shown in FIG. 1, is backward compatible with DVD-ROM for defect management.

In order to establish a *prima facie* case of obviousness under 35 U.S.C. §103, the Examiner must show that the prior art reference (or references when combined) must teach or suggest all the claim limitations, and that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skilled in the art, to modify the reference or to combine reference teachings, provided with a reasonable expectation of success, in order to arrive at the Applicants' claimed invention. The requisite motivation must stem from some teaching or suggestion to make the claimed combination must be found in the prior art, and **not** based on Applicants' disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 2143. In other words, all the claim limitations must be disclosed or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Moreover, "obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting

the combination." ACS Hospital System, Inc v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The Examiner must point to something in the prior art that suggests in some way a modification of a particular reference or a combination of references in order to arrive at Applicants' claimed invention. Absent such a showing, the Examiner has improperly used Applicants' disclosure as an instruction book on how to reconstruct to the prior art to arrive at Applicants' claimed invention. Furthermore, any deficiencies in the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". See In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002).

In the present situation, both Kim '345 and Lin '152 fails to disclose and suggest features of Applicants' base claims 1, 3, 5, 9, 11, 13, 17, 21 and 25 and their respective dependent claims. Therefore, Applicants respectfully request that the rejection of claims 1-38 be withdrawn.

In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC office at (202) 216-9505 ext. 232.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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